

vations July 6, 13, 15. Bumble bees were taken plentifully from July 3 continuously until August 4.

Of the Diptera, there were a great number of small species that were not studied. One interesting observation was the presence of male *Tabanus*, especially *T. atratus* which occurred continuously from June 16 until July 23.

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## Undescribed Species of Crane-flies from the Eastern United States and Canada (Dipt.: Tipulidae). Part III.

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In this installment, a few species of the genus *Tipula* are considered, most of them belonging to the so-called *tricolor* group. As before, the majority of the specimens were included in collections received from Professor J. Speed Rogers, collected by himself and Mr. Hubbell. One other specimen was sent by Mr. Curran and another by Mr. C. W. Johnson. My sincere thanks are extended to the above gentlemen for this co-operation.

### *Tipula brevifurcata* sp. n.

Allied to *T. iroquois* Alexander; vertical tubercle produced into a small elevated dusky knob; lateral praescutal stripes entire; median stripe split by a capillary dark brown vitta; male hypopygium with the ninth tergite large, the distal end narrowed into a median decurved lobe that is split at apex, into two short divergent points.

♂. Length about 12 mm.; wing 15.5 mm.

Frontal prolongation of head relatively elongate, pale brown, very sparsely pruinose; nasus short and blunt; palpi brownish black. Antennae with the scapal segments yellow; flagellum black, the extreme bases of the first few segments vaguely paler; antennae of moderate length, if bent backward extending about to the root of the halteres; flagellar segments only moderately incised. Head gray, the vertical tubercle produced into a small elevated dusky knob.

Pronotum obscure yellow. Mesonotal praescutum buffy gray, with three brown stripes, the lateral stripes entire, the median stripe obliterated anteriorly, becoming evident at about

opposite the cephalic ends of the lateral stripes, narrowly margined with darker brown and split for its whole length by a capillary dark brown median vitta; scutum buffy, each lobe virtually covered by two confluent brown marks; scutellum testaceous; postnotal mediotergite pale whitish gray. Pleura pale, covered with a dense white bloom. Halteres pale, the knobs infuscated. Legs with the coxae pale, sparsely pruinose; trochanters obscure yellow; femora yellow basally, passing into dark brown near midlength; remainder of legs brownish black; legs very long and slender, the tibiae longer than the femora, the tarsi exceeding the tibiae. Wings tinged with brownish yellow, the base and costal region clearer yellow; stigma dark brown; wing-apex distinctly suffused with brown; vein  $Cu_1$  and  $m-cu$  seamed with brown; narrow brown seams along the cord; vein *2nd A* narrowly seamed with darker; veins dark brown, those in the costal region paler. Venation; Cell  $R_2$  large, the veins enclosing it diverging; petiole of cell  $M_1$  about twice  $m$ ; basal deflection of  $M_1+2$  relatively long.

Abdominal tergites brownish yellow, the outer segments becoming darker; tergites five to seven narrowly ringed caudally with paler; lateral margins of the tergites broadly yellowish; ninth tergite uniformly darkened; sternites obscure yellow, the basal segments variegated with darker. Male hypopygium of moderate size, the tergite distinctly separated from the sternite by a suture that extends back to beneath the eighth segment. Ninth tergite very large, the basal portion arched, the apical portion suddenly narrowed into a median decurved blackened lobe, its apex split into two short divergent points. Basistyle large but the sutures separating it from the sternite almost obliterated. Outer dististyle relatively long and narrow, obscure yellow, gradually narrowed to the obtuse apex. Inner dististyle appearing as a heavily blackened, shiny, hook-like spine. Dorso-caudal angle of the median region of the ninth sternite produced into a small straight subchitinized rod. Aedeagus elongate, projecting conspicuously from the genital chamber.

*Habitat*.—Tennessee. *Holotype*: ♂, Scott Co., May 30, 1922 (*J. S. Rogers*); No. 6.

Type returned to Professor Rogers.

***Tipula floridensis* sp. n.**

Belongs to the *tricolor* group; closely allied to *T. fraterna* Loew; size large; wing-apex entirely darkened; whitish fascia at the cord not entirely traversing the wing; male hypopygium

with the lobe of the ninth tergite elongate, subrectangular in outline; outer dististyle with the setae sparse and inconspicuous.

♂. Length about 15 mm.; wing 18 mm. ♀. Length about 20 mm.; wing 19 mm.

Frontal prolongation of the head obscure yellow, the colorous nasus long and slender; palpi brown. Antennae of moderate length, in male, if bent backward, extending about to the base of the abdomen; basal segment dark brown, sparsely pruinose; second segment a little paler; flagellar segments bicolorous, the base of each dark brown, the long pedicel yellow, this latter color becoming darker on the outer segments which thus become more uniformly infuscated. Head dark gray, the anterior vertex paler. In the female, the antennae are shorter; head with a capillary brown median vitta.

Mesonotal praescutum brownish gray with three brown stripes, all of the latter indistinctly bordered with darker, the median stripe further split by a capillary brownish black vitta that becomes obsolete before the suture; scutum brownish gray, each lobe with two darker brown areas; scutellum paler brownish gray; postnotal mediotergite light gray pruinose. Pleura clear light gray, the dorso-pleural membrane obscure yellow. Halteres pale brown, the extreme base of the stem paler, the knobs darker. Legs with the coxae pale, pruinose; a brown spot at base of fore coxa; trochanters obscure testaceous yellow; femora brownish yellow, the tips narrowly and vaguely darkened; tibiae obscure brownish yellow, darkening outwardly; tarsi similar, the terminal segments uniformly brownish black. Wings dark brown, this color including the entire wing-apex; proximal end of stigma yellow, the distal end dark brown; cells *M*, *Cu* and the Anal cells largely pale, the outer ends more darkened; a relatively narrow but conspicuous whitish obliterative band crosses the wing before the cord, extending from the yellow stigma far into the base of cell *M*<sub>3</sub>, the inner end of cell 1st *M*<sub>2</sub> being included; center of cell *M*<sub>4</sub> extensively pale; veins dark brown, pale in the obliterative areas. Venation: Basal section of *R*<sub>2</sub> fully one-half *r*; cell 1st *M*<sub>2</sub> relatively long and narrow; petiole of cell *M*<sub>1</sub> about one-third the cell; cell 2nd *A* relatively narrow.

Abdominal tergites pale yellowish brown, with a broad dark brown sublateral stripe, the ground-color becoming more pruinose on the posterior segments; lateral margins of segments broadly paler; sternites light brown. Male hypopygium with the caudal margin of the ninth tergite bearing a conspicuous strongly depressed, subrectangular, median lobe, the

sides gradually narrowed outwardly, the tip truncate, with the apical angles rounded. Outer dististyle compressed, the apex truncated, the surface of the style on distal half with sparse short setae that are more numerous on the ventral-outer angle but still inconspicuous. Ninth sternite with a deep V-shaped notch, the margins of the incisions fringed with conspicuous elongate setae that completely fill the aperture. Ovipositor with the tergal valves slender, dark brown.

*Habitat*.—Florida. *Holotype*: ♂, Gainesville, Alachua Co., March 28, 1922 (*J. S. Rogers*); No. 28. *Allotype*: ♀ March 14, 1922.

Type returned to Professor Rogers.

***Tipula concava* sp. n.**

Belongs to the *tricolor* group; praescutum with three brown stripes that are narrowly margined with darker brown, the median one further split by a capillary dark brown vitta; wings brown, longitudinally vittate with whitish subhyaline; cell  $R_5$  largely pale; male hypopygium with the median lobe of the ninth tergite very broad, its caudal margin broadly emarginate.

♂. Length 12.5—13 mm.; wing 12—13.5 mm.

Frontal prolongation of head obscure yellow, darker laterally, the nasus slender. Antennae with the scapal segments dark brown; flagellum bicolorous, the basal segment yellow, the succeeding segments with the basal enlargements narrowly blackened, the remainder yellow; on the outer segments the ground-color passes through brownish yellow to yellowish brown. Head grayish brown, narrowly clearer gray on the orbits, the center of the vertex with a slightly darker brown median vitta; anterior vertex buffy.

Pronotum obscure yellow, with three brown spots. Mesonotal praescutum buffy with three brown stripes that are narrowly margined with dark brown, the median stripe further divided by a capillary vitta of the same color; in some specimens the interspaces are clouded with darker; scutum brownish buff, each lobe with two contiguous darker brown areas; scutellum buffy gray, in cases with a vague capillary darker line; postnotal mediotergite buffy with a longitudinal brownish line on either side. Pleura light gray, vaguely striped longitudinally with darker gray. Halteres pale, the knobs infuscated. Legs with the coxae and trochanters pale, whitish pruinose; femora obscure yellow, the tips narrowly blackened; tibiae yellowish brown, the tips narrowly darker; tarsi uniformly dark brown. Wings brown, longitudinally vittate with whitish subhyaline,

the latter color including all of cells *R* and *M* except the base and seam along *Rs* and most of the cubital and anal cells except their more infuscated outer ends; a conspicuous obliterative area before the cord, extending from cell 1st *R*<sub>1</sub>, across the proximal third of cell 1st *M*<sub>2</sub> into the basal half of cell *M*<sub>3</sub>; center of cell *M*<sub>4</sub> extensively pale; outer half of cell *R*<sub>5</sub> more or less distinctly whitened, cell *M*<sub>1</sub> uniformly darkened; cell 2nd *M*<sub>2</sub> sometimes vaguely paler at center; veins dark. Venation: Cell *M*<sub>1</sub> about equal to its petiole.

Abdominal tergites obscure yellow, with a broad brown longitudinal stripe on either side, the lateral margins of the segments broadly grayish, the caudal margins narrowly of the same color; sternites obscure brownish yellow, the caudal margins of the segments paler. Male hypopygium with the ninth tergite produced medially into a broad and relatively short blackened lobe, the caudal margin of which is conspicuously and broadly emarginate.

*Habitat*.—Eastern United States. *Holotype*: ♂, Hanover, Jefferson Co., Indiana, July 22, 1921 (*J. S. Rogers*); No. 64. *Paratopotype*, ♂; *paratypes*, ♂, Ann Arbor, Washtenaw Co., August 6, 1921 (*J. S. Rogers*); No. 2; ♂, Winnipauk, Connecticut, June 16, 1909 (*C. W. Johnson*), in the Boston Society of Natural History.

Type returned to Professor Rogers.

*Tipula concava* bears a resemblance to *T. cluta* Loew in the relatively diffuse wing-pattern. It is readily told from the other described species of the group by the broadly concave apex of the median lobe of the tergite of the male hypopygium.

### ***Tipula parvemarginata* sp. n.**

Belongs to the *tricolor* group; head brownish gray to gray, with a capillary dark brown median vitta; antennal flagellum dark brown, the extreme bases of the segments restrictedly paler; wings suffused with pale brown, the disk without conspicuous subhyaline or hyaline longitudinal vittae; *M*<sub>3</sub>+<sub>4</sub> very short to lacking; male hypopygium with the median lobe of the ninth tergite broad, with a small median notch.

♂. Length about 12–13 mm.; wing 12.5–13 mm. ♀. Length 14–15 mm.; wing 15–16 mm.

Frontal prolongation of head obscure yellow, the nasus conspicuous; palpi dark brown. Antennae with the scapal segments obscure yellow, the flagellum dark brown, with the

extreme proximal ends of the basal enlargements of the segments paler. Head brownish gray, the front and posterior orbits clearer gray; a capillary dark brown median vitta. In cases the ground-color of the head is clear gray.

Mesonotal praescutum grayish brown with three nearly colorous or slightly more reddish brown stripes that are vaguely margined with darker brown, the median stripe split by a similar dark brown vitta; in some cases, the ground-color and stripes are of a much clearer gray; scutum obscure yellow, the lobes largely covered by two contiguous dark brown marks; scutellum and postnotum buffy or grayish buffy, with a very narrow capillary brown line. Pleura yellow, the sternopleurite and anepisternum sparsely pruinose. Halteres pale, the knobs dark brown. Legs with the coxae pale, sparsely pruinose; trochanters yellow; femora and tibiae obscure brownish yellow, the tips narrowly infuscated; tarsi brownish yellow, soon passing into brownish black. Wings suffused with pale brown, the base and costal region darker, this color including the cephalic half of cell *R*, most of cell *1st R*<sub>1</sub> and the stigma; no distinct hyaline vittae as usual in the *tricolor* group, the center of the wing in cells *R* and *M* being only slightly paler than the remainder of the ground-color; obliterative areas along the cord include the outer end of *Rs*, basal section of *M*<sub>1</sub>+<sub>2</sub> and the basal portion of the first section of *M*<sub>3</sub>; stigmal region somewhat brighter brown than the ground-color; a dusky cloud on the anterior cord; *Cu*<sub>1</sub> and especially *m-cu* seamed with brown; veins dark brown. Venation: Petiole of cell *M*<sub>1</sub> about equal to or longer than *m*; *M*<sub>3</sub>+<sub>4</sub> very short, only about one-half longer than the punctiform basal section of vein *M*<sub>4</sub>. In cases, vein *M*<sub>3</sub>+<sub>4</sub> is obliterated, both veins *M*<sub>3</sub> and *M*<sub>4</sub> arising directly from the end of *M*.

Abdominal tergites obscure yellow, with a broad dark brown sublateral stripe, these ending on the seventh tergite; eighth tergite yellow, with a median brown spot; sternites obscure yellow, the caudal margins of the segments narrowly grayish; seventh and eighth sternites infuscated; hypopygium largely yellow. Male hypopygium with the ninth tergite obscure yellow, with a more or less distinct brown line on either side, in cases fused into a single median blotch; caudo-median area of the tergite produced caudad into a short broad median lobe that has a small U-shaped notch, the lateral lobules thus formed being microscopically spiculate. Outer dististyle of moderate size and width.

In the female, the basal flagellar segments are more uniformly pale,



*Habitat*. — Northeastern North America. *Holotype*: ♂, Devil's Lake, North Dakota, July 23, 1920 (*T. H. Hubbell*); No. 39. *Allotopotype*, ♀, August 8, 1920; No. 161. *Paratopotypes*, 6 ♂♀, July 23—August 14, 1920; Nos. 39, 48, 161, 196; *paratypes*, ♂, Turtle Mts., North Dakota, July 30, 1920 (*T. H. Hubbell*); No. 88; ♂, Portage la Prairie, Manitoba, July 2, 1924 (*A. J. Hunter*), in the Canadian National collection; ♂, Ann Arbor, Washtenaw Co., Michigan, June 28, 1920 (*J. S. Rogers*); No. 20.

Type returned to Professor Rogers.

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### Insects as Litigants.

By HARRY B. WEISS, New Brunswick, New Jersey.

In these times insects are occasionally the causes of litigation but never the litigants. Such was not the case some centuries ago when legal prosecutions of the lower animals were not unusual. In France, Spain and Italy the lower animals were subject to the laws and in Switzerland, they could in addition be admitted as witnesses. There are instances recorded, of a writ being served against rats in the diocese of Autun, of a sow and six pigs being charged with the murder of a child at Lavegny in 1457, of a process issued against leeches at Lausanne in 1451, and of a cock being tried at Basle in 1474 for laying an egg.

A law suit between the inhabitants of the Commune of St. Julien and the beetle *Rhynchites aureus* is said to have lasted more than forty years, or from 1445 to 1487, and was not settled even then. At one time the people proposed a settlement of the case by giving to the beetles in perpetuity, a piece of their district, not a poor piece, but a productive one. The attorney for the beetles objected but the court over-ruled the objection and appointed agents to survey the land. This they did and finding it well supplied with water and trees, the land was deeded in due form to the insects. Unfortunately this did not end the case because it was discovered later that some one had an ancient right-of-way over the land, which if taken advantage of might disturb the insect owners; and so the contract